ZWX300/A1

SPECIFICATIONS(1/2)

A236-01-01/A1-B

(This specifications sheet also to other option model /A2.)

	ITEMS \ MODEL			ZWX300/A1					
				V1	V2	V3-1	V3-2	V4	V5 (5V SB)
1	Nominal Output Voltage		V	+3.3	+5	+12	+12	-12	+5
2	Minimum Output Current		A	0	0	0	0	0	0
3	Maximum Output Current (Convection)		A	10.0	6.0	4.0	8.0	0.2	1.4
4	Maximum Output Power Each CH (Convection)		W	33.0	30.0	48.0	96.0	2.4	7.0
						Combined 131W			
5	Total Output Power (Convection)		W	150					
6	Maximum Output Current (Forced Air)		A	14.0	8.4	5.6	11.2	0.4	2.0
7	Maximum Output Power Each CH (Forced Air)		W	46.2	42.0	67.2	134.4	4.8	10.0
8	Total Output Power (Forced Air)		W	255					
9	Peak Output Current (*1)		A	20.0	12.0	8.0	16.0	0.4	2.0
10	Peak Output Power Each CH (*1)		W	66.0	60.0	96.0	192.0	4.8	10.0
						Combined 264W			
11	Total Peak Output Power (*1)		W	300					
12	Efficiency (100/200VAC)(Typ) (*2)		-	81%/84%					
13	Input Voltage Range (*4)		-	85-265VAC (47-63Hz)					
14	Input Current (100/200VAC) (Typ) (*2)		-	3.2A/1.6A					
15	Inrush Current (100/200VAC) (Typ) (*5)		-	14A/28A at Cold Start (Ta=25℃)					
16	PFHC		-	Designed to meet IEC61000-3-2					
17	Power Factor (100/200VAC)(Typ) (*2)		-	0.99/0.93					
18	Output Voltage Accuracy		%	±5	±5	±5	±5	±5	±5
19	Output Voltage Range		-	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
20	Maximum Ripple & Noise (*3,*6)	-10≤Ta<0°C	mV	160	180	180	180	160	160
		0≤Ta≤50°C	mV	120	150	150	150	120	120
21	Maximum Line Regulation (*3,*6,*7)		mV	20	48	48	48	20	20
22	Maximum Load Regulation (*3,*6,*8)		mV	100	300	300	300	100	100
23	Over Current Protection (*9)		A	14.7-	8.82-	5.88-	11.8-	0.42-	2.1-
24	Over Voltage Protection (*10)		-	V1 : 114%-130%(3.76-4.3V), V2 : 115%-140%(5.74-7V) V3-1, V3-2 : 112%-130%(13.4-15.6V)					
25	Hold-up Time (Typ) (*2)		-	20ms at 100VAC					
26	Leakage Current (*3,*11)		-	Less than 0.75mA					
27	Remote Sensing		-	Possible (V1 only)					
28	ON/OFF Control (PS_ON)		-	TTL compatible (H : Output Inhibit, L : Output Enable) : Designed to meet ATX standard.					
29	Series / Parallel Operation		-	-					
30	Operating Temperature (*12)		-	-10 - +50°C : 100%, 60°C : 60%, 70°C : 20%					
31	Operating Humidity		-	30 - 90%RH (No Dewdrop)					
32	Storage Temperature		-	-30 - +85°C					
33	Storage Humidity		-	10 - 95%RH (No Dewdrop)					
34	Cooling (*12)		-	Convection Cooling / Forced air Cooling (System air Cooling) : 0.85 m^3/min					
35	Withstand Voltage		-	Input-FG : 2kVAC(20mA), Input-Output : 3kVAC(20mA) Output-FG : 500VAC(100mA) for 1min.					
36	Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output-FG : 500VDC					
37	Vibration		- -	At no operating 10 - 55Hz(Sweep for 1min) 19.6 m/s^2 Constant, X,Y,Z 1hour each.					
38	Shock		-	Less than 392 m/s^2 at no operating.					
39	Safety		-	Approved by UL60950-1, CSA60950-1, EN60950-1, EN50178(OV II), Designed to meet Den-an Appendix12 (J60950-1)					
40	Conducted Emission (*3)		-	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B					
41	Radiated Emission (*3)		-	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B					

ZWX300/A1

SPECIFICATIONS(2/2)

A236-01-02/A1

(This specifications sheet also to other option model /A2.)

	ITEMS \ MODEL		ZWX300/A1					
			V1	V2	V3-1	V3-2	V4	V5 (5V SB)
42	Immunity	-	Designed to meet IEC61000-4-2, -3, -4, -5, -6, -8, -11					
43	Weight (Typ.)	g	1000					
44	Size (W x H x D)	mm	121 x 45.5 x 280 (Refer to Outline Drawing)					

*Read instruction manual carefully, before using the power supply unit.

=NOTE=

*1. Operating time at peak output is less than 5sec.
(Average output power and current are less than maximum output power and current.)

*2. At total output power (Forced air) (V1=12A, V2=7.0A, V3-1=5.0A, V3-2=9.4A, V4=0.2A, V5=1.0A), Ta=25°C.

*3. At total output power (Forced air).

*4. For cases where conformance to various safety specs (UL, CSA, EN) are required,
to be described as 100 - 240VAC (50/60Hz).

*5. Not applicable for the inrush current to Noise Filter for less than 0.2ms.

*6. Please refer to Fig. A for measurement of line & load regulation and ripple voltage.

*7. 85 - 265VAC , constant load.

*8. No load-Full load, constant input voltage.

*9. Avoid to operate at overload or short circuit condition for more than 30 seconds.
V1,V2,V3-1 and V3-2
: OCP circuit will shut down output except V5 with delay (more than 5s), manual reset (PS_ON reset or re power on.).
V4 : Constant current limit with automatic recovery.
V5 : Constant current limit in conjunction with all output with automatic recovery.

*10. OVP circuit will shut down output, manual reset (PS_ON reset or re power on.).

*11. Measured by the each measuring method of UL, CSA, EN and DENAN (at 60Hz), Ta=25°C.

*12. At forced air cooling, standard mounting. Refer to output derating curve.(A236-01-03/A1-_, A236-01-04/A1-_)

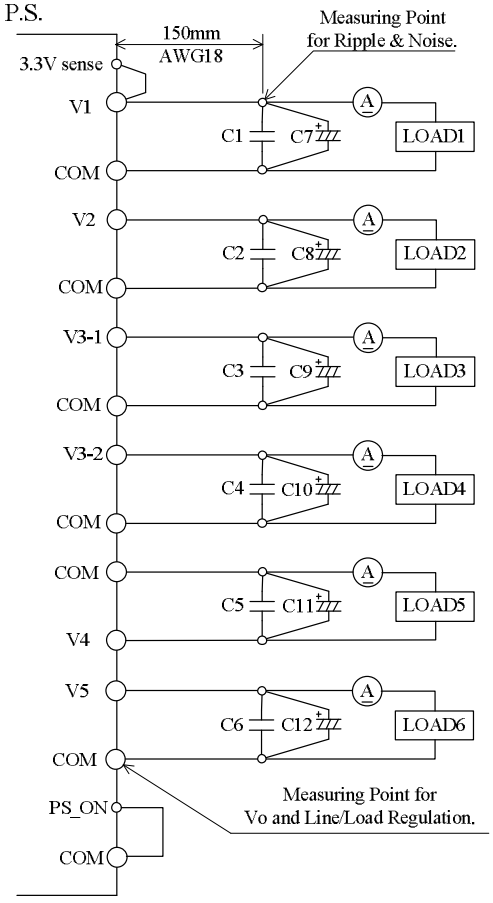


Fig.A

Measure with EIAJ RC-9131 probe.
Bandwidth of scope : 100MHz

	Capacitance
C1,C2,C3,C4,C5,C6 : Film Cap.	0.1 μF
C7,C8,C9,C10,C11,C12 : Elec. Cap.	100 μF

ZWX300/A1

OUTPUT DERATING

A236-01-03/A1-A

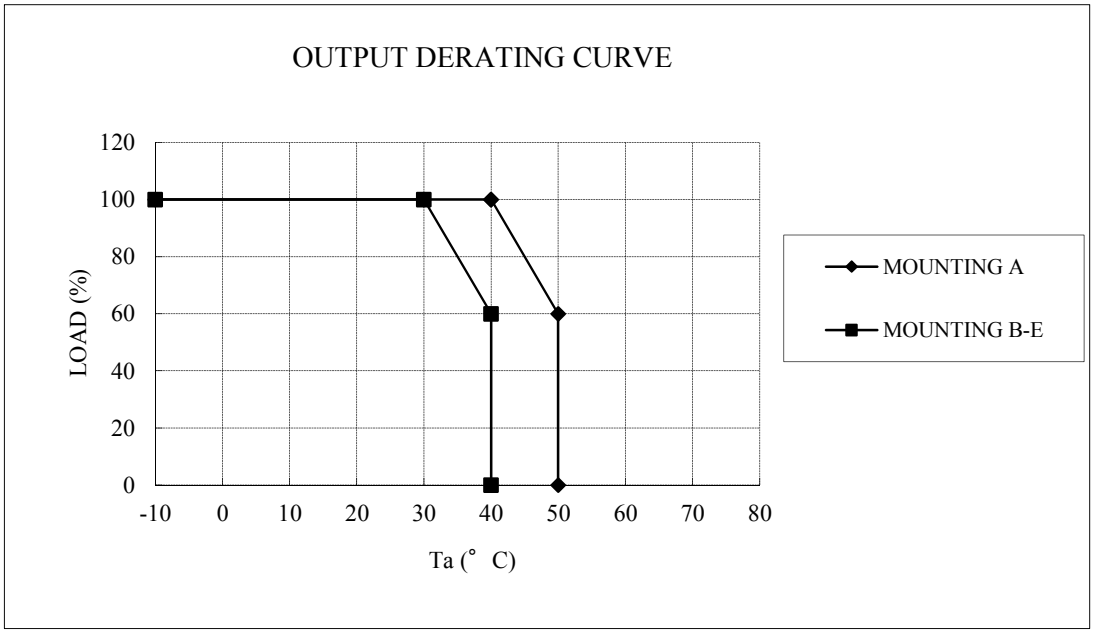
(This specifications sheet also to other option model /A2.)

*COOLING : CONVECTION COOLING

Ta (°C)	LOAD (%) MOUNTING A	LOAD (%) MOUNTING B-E
-10 - +30	100	100
40	100	60
50	60	-

Load (%) is percent of total output power (Convection) : 150W max.

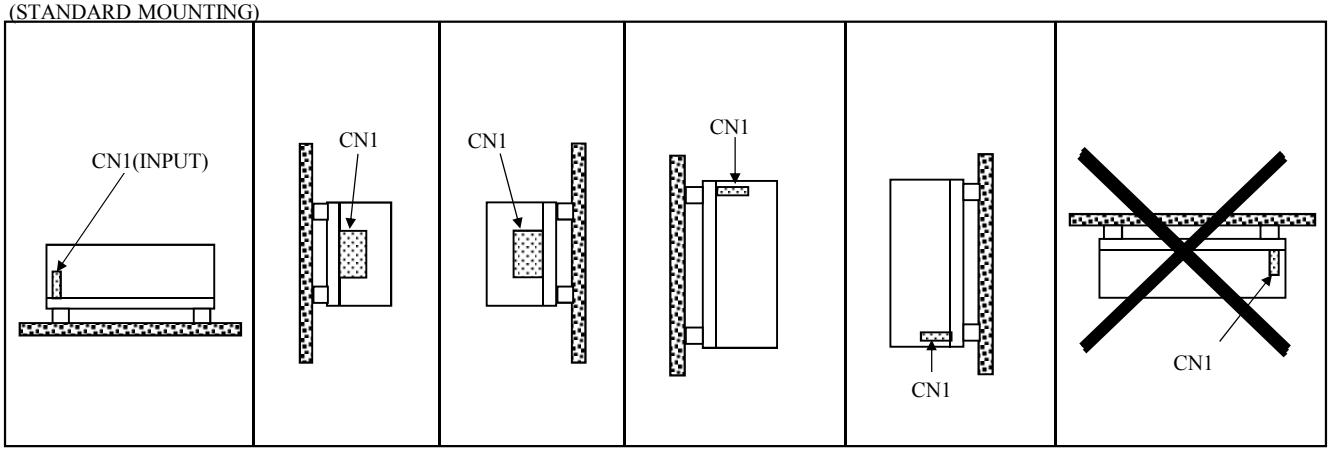
Also apply Load(%) to maximum output current (Convection) and combined maximum output power (Convection).



* PEAK OUTPUT CURRENT DOES NOT NEED DERATING.

MOUNTING A | MOUNTING B | MOUNTING C | MOUNTING D | MOUNTING E | DON'T USE

(STANDARD MOUNTING)



ZWX300/A1

OUTPUT DERATING

A236-01-04/A1-A

(This specifications sheet also to other option model /A2.)

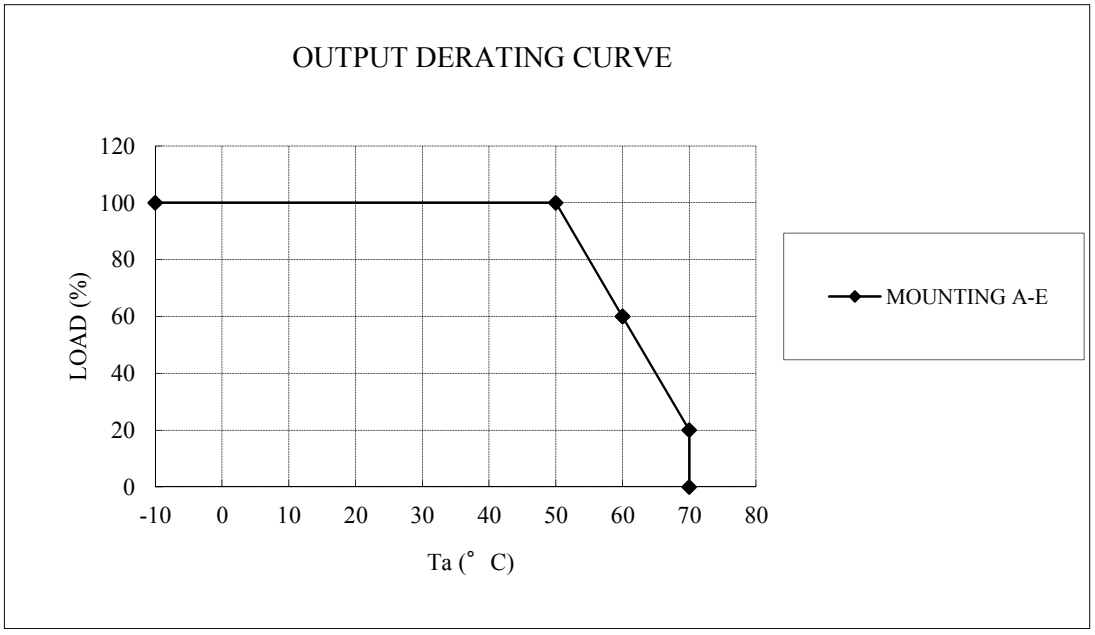
*COOLING : FORCED AIR COOLING

Ta (°C)	LOAD (%)
	MOUNTING A-E
-10 - +50	100
60	60
70	20

Load (%) is percent of total output power (Forced air) : 255W max.

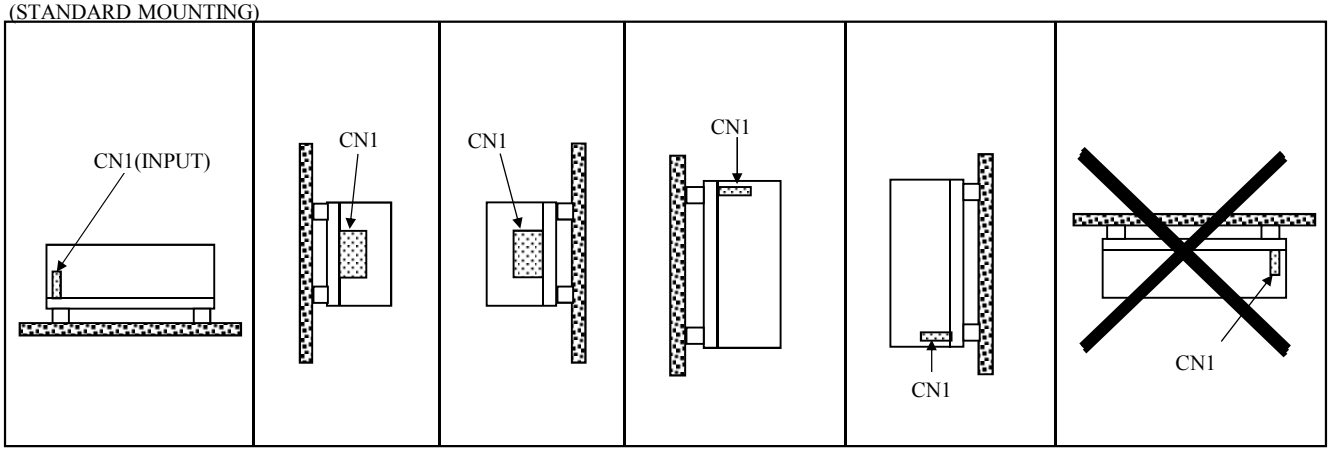
Also apply Load(%) to maximum output current (Forced air) and combined maximum output power (Forced air).

Air flow $\geq 0.85 m^3/min$: Air must flow through component side.



* PEAK OUTPUT CURRENT DOES NOT NEED DERATING.

MOUNTING A (STANDARD MOUNTING) | MOUNTING B | MOUNTING C | MOUNTING D | MOUNTING E | DON'T USE



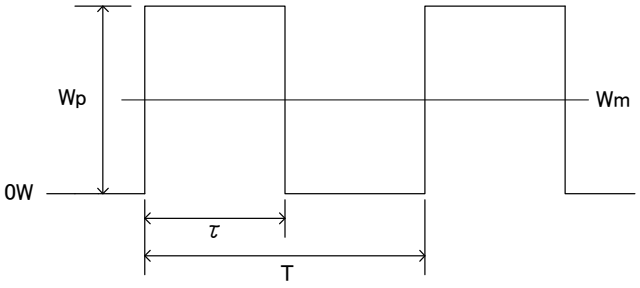
ZWX300/A1

Peak Output Power Condition

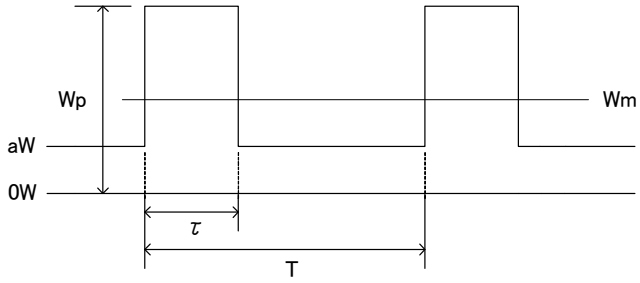
A236-01-05/A1

(This specifications sheet also apply to option model /A2.)

Relation between peak output current and peak output power (Wp) must satisfy formulas below.
The mean output power during peak output (Wm) have to be less than total output power specified in the spec sheet (Wavg) in both cases for forced air cooling and convection cooling.
Also operating time at peak output current (τ) should be less than 5sec.
(Forced Air Cooling : Duty≦50%, Convention Cooling : Duty≦10%)



$$Wavg \geqq Wm = \frac{Wp \times \tau}{T}$$



$$Wavg \geqq Wm = \frac{(Wp - a) \times \tau}{T} + a$$

$$Duty = \frac{\tau}{T} \times 100\ (\%)$$

Wp	: Peak output power (W)
Wavg	: Total output power of Specification (W)
Wm	: Average output power (W)
τ	: Pulse width of peak output power (sec) (Operating time at peak output)
T	: Period (sec)